Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC

In the matter of:	)	
	)	
Revitalization of the AM Radio Service	)	MB Docket No. 13-249
	)	
	)	

COMMENTS OF REC NETWORKS

REC Networks ("REC") is filing comments in the above captioned proceeding. REC is one of the leading advocates for the Low Power FM (LPFM) radio service as well as the citizen's right to access spectrum. REC is also concerned about issues that impact listeners in rural areas as well as the traveling public. In our comments, we support the preservation of nighttime Class A AM service, a reasonable expansion on the placement of FM translators for AM stations, the release of expanded band AM spectrum by 25 "double dipping" stations and a future for expanded band which includes improvements to some existing AM stations while permitting more hyperlocal community stations inside the band. We also urge the Commission by taking the public interest of thousands of local class D and C AM stations and work towards migrating them to spectrum that is currently reserved for a small number of TV stations and which radio receivers for the band are already being manufactured. Finally, we feel that other alternate spectrum, such as the 11-meter shortwave band and adjacent broadcast auxiliary spectrum should be considered for future local (Class C and D) all-digital operations using world-accepted standards.

REC SUPPORTS A REGIONALLY PROTECTED SKYWAVE NIGHTTIME AM SERVICE

In the Further Notice of Proposed Rulemaking ("Notice"), the Commission concludes that (1) all Class A stations should be protected, both day and night, to their 0.1 mV/m groundwave contour, from co-channel stations; (2) all Class A stations should continue to be protected to the 0.5

mV/m ground wave contour from first-adjacent channel stations and (3) the critical hours protections of Class A AM stations should be eliminated.[1]

I can recall a time back in the 1980s and 1990s, living in Southern California and listening on 740 kHz to Class-D station KBRT, (then) Avalon, California battle with dominant Class-A station KCBS, San Francisco. This created a huge mess in and around the areas where KBRT was intended to be heard. By eliminating the nighttime skywave protections, we are creating a new mess of stations that will be propagating and while a very small area may receive an improvement, significant areas of the nighttime skywave service area of an AM station that has been a staple in those areas for decades will suddenly be lost. This includes areas that are outside the 2 mV/m contour of any AM broadcast station. REC has identified many areas of the country, especially in the west, that is outside the 2 mV/m contour of any AM station and therefore depend on out of town AM stations, especially at night.

For those who travel across America's roads into the evening and overnight, the clear channel AM stations provide the only free information and entertainment that does not require constant re-tuning of the radio and unlike other options such as pre-recorded music or even subscription satellite radio services, it is more likely to provide emergency information but even with that, it comes up short. For many years, distant AM stations were the way that many in rural America heard new music and learned about new trends. Prior to the cable television and the Internet, nighttime AM radio was the gateway to the outside world for many.

One of the issues we must recognize is that while corporations like iHeart Media (IHM) are requesting that Class-A AM stations should be permitted to keep their skywave protections, IHM and many of the other Class-A owners have shown a complete lack of interest in programming not only to their markets of license but also to the larger regional area that includes their overnight skywave service area. A scan of the dial from here in Riverton, Maryland where Class A stations such as WLS Chicago, WLW Cleveland, WABC New York and WBZ Boston come in loudly will be mostly either syndicated programming that is available on more than one Class

[1] - *Notice* at 56.

A station serving primarily the same skywave area or programming that is specific to the primary market of the station.

One example of a station that is properly utilizing their nighttime service is WBAP, Fort Worth which is the flagship station for Red Eye Radio, an overnight radio show directed to the over-the-road trucking industry. Shows like this offer weather and road condition information for not just the Dallas-Fort Worth area, but for much of the nation. The WBAP nighttime signal can be heard in a significant part of the southern United States. In fact, WBAP has had a history of carrying overnight radio shows to the trucking industry since 1969.[2]

REC supports the current protections to Class A AM stations to assure that their skywave service areas are protected but at the same time, we implore IHM and the other Class A station owners to take into consideration the potential listeners that are outside their market but inside their skywave contours. We miss the times when stations like WABC would boast about the number of states they can be heard in. If Class A AM stations want this kind of protection, they really need to provide programming that is tailored to a wide area. These companies claim that AM needs "revitalization". For the Class A stations, AM has always been vitalized, it's just the owners like IHM who have completely lost touch in how to use this powerful medium.

Even if the nighttime skywave protections are eliminated for Class A AM stations in order to allow Class D and other stations to improve their nighttime service, there was no discussion about any additional relief for AM stations on Canadian, Mexican and Bahamian clear channels. This NPRM does not address if their skywave will continue to be protected on U.S. soil or if we must protect their skywave.

REC concludes on this issue that overall, eliminating skywave protections will completely destroy nighttime AM and significantly diminish a service that Americans have depended on for nearly 100 years. There are other ways to deal with the issues that surround the reason why some would want to eliminate skywave protections. This can be done by moving local AM

[2] - https://en.wikipedia.org/wiki/Red_Eye_Radio

stations to spectrum that is more likely to serve local audiences, expanded band FM. This way, the AM clear channels can go back to serving the traveling public and the rural communities throughout this great nation. We must keep this vital resource in-tact.

REC SUPPORTS A REASONABLE EXTENSION OF AM OVER FM TRANSLATOR COVERAGE

REC does support FM translators for AM class C and D stations as well as any Class B station with less than 500 watts nighttime power. We must also recognize that many Class C AM stations have a 2 mV/m groundwave contour so small that a 250 watt translator mounted on the AM tower would result in the FM protected contour extending past the 2 mV/m contour.

Currently, the Commission allows AM stations to use FM translators for fill-in service to under the condition that the protected contour of the translator remains within the 2mV/m contour of the AM station but no more than 25 miles from the transmitter. The Commission is proposing to extend this area to the greater of the 2 mV/m or 25 miles but in no case exceeding 40 miles. Some proponents of this extension state it is because of the nature of some contours, it may be possible that the AM transmitter is so distant to the populated area, it needs this additional flexibility.

After a careful examination and various studies performed on this proposal, we have come to have several positions on this issue. First and foremost, the AM stations that have the most to benefit from with such a change would be Class C stations. Class C stations operate with much 2 mV/m smaller contours as compared to their counterparts in other classes. Based on 36 equally spaced radials for each station, the average distance from the AM station to the 2 mV/m contour is as follows for each class of AM station[3]:

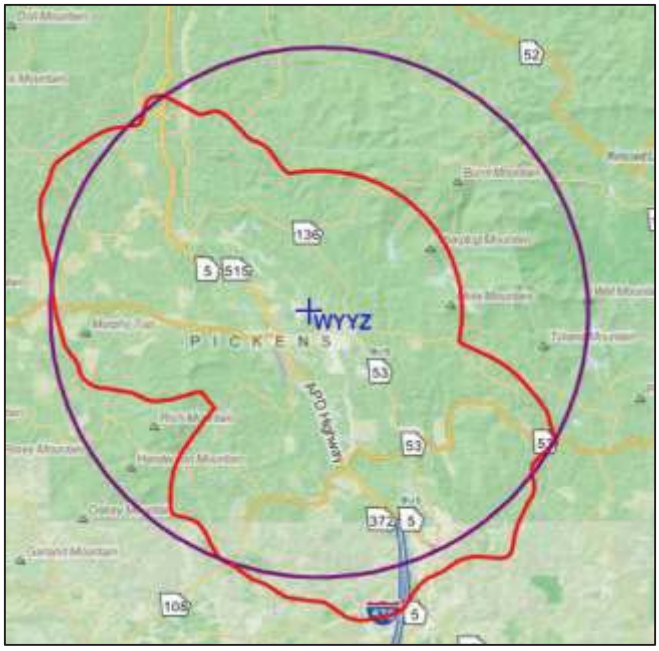
[3] - Based on the 2 mV/m data provided by the FCC as used in their recent AM revitalization tools. It is important to note here that these averages do take into consideration the 2 mV/m contours of coastal AM stations that place a contour out a significant distance over the water.

AM station class (station count)	Average distance to 2 mV/m	Stations with maximum 2 mV/m contour of 0~25 miles	Stations with maximum 2 mV/m contour of 25~40 miles	Stations with maximum 2 mV/m contour of over 40 miles
A (77)	63.4 miles[4]	2 (3%)	10 (13%)	65 (84%)
B (1,721)	38.2 miles	404 (24%)	369 (22%)	948 (55%)
C (1,012)	17.4 miles	748 (74%)	160 (16%)	104 (10%)
D (1,888)	21.9 miles	1,142 (60%)	402 (21%)	344 (19%)
C & D (2,900)	19.7 miles	1,890 (65%)	562 (19%)	448 (16%)
Total (4,698)	35.2 miles	2,296 (49%)	941 (20%)	1,461 (31%)

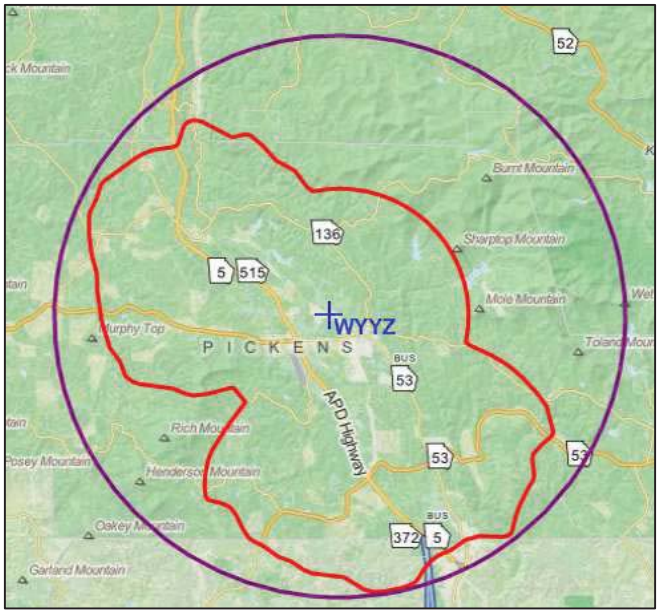
REC has worked with numerous Class C and Class D AM stations and one of the primary issues is that because of the differences between AM and FM service areas, placing a translator for an AM station, especially on an FM tower can be challenging for these stations, especially Class C because without substantially reduced power that could jeopardize the coverage in one direction or going with a more extensive directional antenna, the barrier of the 2 mV/m contour is preventing these AM stations from providing satisfactory service within their legacy 2 mV/m contours.

Let's look at a random station that is in that situation. WYYZ(AM) in Jasper, GA has a 2 mV/m contour of 8.3 miles. If we were to place an FM translator with a non-directional antenna at 250 watts ERP at a point 5 meters below the top of the tower, the 60 dBu protected contour of the translator would extend just slightly past the 2 mV/m contour:

[4] - If we remove Class A stations with significantly large 2 mV/m contours as a result of ocean conductivity (KNX, KFI, KGO, KNBR, WBZ, WBBR, WOR, WCBS, WFAN, WFME and WABC) as well as all Class A stations in Alaska, the average distance is still 56.9 miles.



In order for the translator to remain within the 2 mV/m contour, the ERP would have to be reduced to 130 watts:



As REC had stated in the *LP-250* Petition for Rulemaking[5], LPFM stations operating at the lower powers are experiencing issues such as building penetration, even well within their communities of license. REC feels that in cases like this, the ability for AM stations to extend FM translators outside the 2 mV/m with a 25 mile maximum will give an incentive for AM stations to place translators for their communities of license.

REC feels that an AM station's first priority must be on their community of license, which is in many cases is close to the transmitter site. We believe that in a significant majority of cases, the community of license is within 25 miles of the transmitter. Therefore, we see no reason why to extend the 2 mV/m contour out to 40 miles as a "fill-in" service for all AM stations. We can identify a very small number of circumstances where a translator more than 25 miles but within the 2 mV/m contour is justified:

- ***Community of license is more than 25 miles away.*** If there is a rare instance where the community of license is actually more than 25 miles from the AM transmitter and the FM translator is intended to serve the community of license, then we feel that the FM translator is justified. REC would not object to permitting translators outside the 25 mile radius if at least 50% of the population in the protected contour of the proposed translator are within the corporate limits of the community of license.
- ***Inhabited islands without commercial FM stations.*** In an effort to maintain service to an isolated island community, AM stations that have islands within their 2 mV/m should be permitted to place translators on those islands regardless of distance from the AM transmitter. Under our guideline, islands must have regular year-round population, must be completely surrounded by water and/or non U.S. territory and can't have roadways or tunnels leading to land mass with commercial FM stations. Examples of areas that would benefit include Catalina Island (Avalon), CA, Fishers Island, NY and Point Roberts, WA.
- ***AM stations in the state of Alaska.*** Due to the sparse areas of the state as well as the overall spectrum availability outside of Anchorage, we do not have any objections with allowing AM on FM translators more than 25 miles from the transmitter site. As such, some of the first AM on FM translators were in Alaska on waivers.

[5] - RM-11749.

We also note that having a flat 25 mile radius around the AM transmitter as opposed to using the 2 mV/m also means that applications can be prepared by consultants and others who do not have access to software that supports AM contours. This will make for more opportunities for minority and family owned AM stations and consultancies.

Consistent with REC's position that a commercial station's first priority is to the city of license, REC proposes that AM on FM translator protected contours be limited to a 25 mile radius around the AM transmitter site except in cases where the community of license is more than 25 miles away from the AM transmitter, the translator is proposed for an inhabited but non-accessible island where there is no local commercial FM broadcast station or if the AM station and FM translator are located in the state of Alaska but in no case over 25 miles shall the FM protected contour exceed the AM 2 mV/m contour.

DUAL STANDARD/EXPANDED BAND LICENSES MUST SURRENDER THEIR EXPANDED BAND LICENSE

After the ITU created the MF broadcasting allocation from 1605 to 1705 kHz in ITU Region 2[6], the Commission developed the concept of allowing existing stations facing interference issues to be able to migrate to the 1605-1705 kHz "expanded band" and over a period of time, surrender either the "standard band" (535-1605 kHz) license or the expanded band license. As the Commission has pointed out in the NPRM, 25 licensees have not surrendered either of their licenses.

Many years have passed since *Technical Assignment Criteria* and these 25 licensees continue to operate on their standard band channels. With that, some AM stations have surrendered their licenses, Canada is turning off AM stations and transitioning them to FM and most recently, the United States is on the path of normalizing relations with Cuba. The changes to the AM nighttime environment since the *Technical Assignment Criteria* order reflect the slight decline of

[6] - See *Final Acts of the Radio Administrative Conference to Establish a Plan for the Broadcasting Service in the Band 1605-1705 kHz in Region 2, Rio de Janeiro, 1988.* International Telecommunications Union.

AM stations and hopefully soon, we will see Cuba move towards assuring that all of their facilities are operating in accordance with the data in the MIFR (Master International Frequency Register).

Since these 25 stations continue to operate their standard band stations, it is obvious that these stations are not facing the substantial challenges that the Commission alluded to in the 1990s. Therefore, it is in the public interest that these licensees surrender their expanded band license for cancellation and maintain their standard band station. They have been given over a decade to surrender this license. Instead, they have developed and operated their expanded band station, usually as a separate entity. In other words, for over a decade these licensees have had a free ride on a finite resource.

REC urges the Commission to find that these 25 licensees have demonstrated that there are no true problems with their standard band frequencies as they continue to broadcast on them over a decade after they were supposed to surrender those licenses is not in the public interest as there was no true problem with the standard channel. These licensees should not be given a choice. These licensees have abused this process for all of these years and as the Commission stated, the practice of keeping both licenses "disserves the other licensees who complied with the relinquishment requirement".[7]

THE FUTURE OF AN AM EXPANDED BAND

First, as a point of order, REC opposes any digital operation, either digital only or hybrid in any of the AM broadcast spectrum. Whether it would be the iBiquity "HD Radio" system or Digital Radio Mondiale (DRM). We are doing the public a disservice by putting a digital service inside the same band that is currently on millions of incompatible radio receivers. Since digital radio will require a new receiver, it would make sense to look for spectrum to place local digital

[7] - We do note that in the NPRM at 77, the Commission proposes that if the Commission adopts the 12 month period to surrender a license and the station does not do that, the expanded band license would be kept. REC opposes this. We feel that the standard band license should be retained and the expanded band license be cancelled. This further clears the expanded band for additional stations and service repurposing.

stations in. REC supports the use of the 11 meter international shortwave band (25,600-26,100 kHz) as well as the adjacent spectrum currently utilized for broadcast auxiliary (26,100-26,480 kHz) but substantially underused as a new AM broadcast band utilizing the DRM technology. There has been testing of this spectrum using DRM in Europe and in Mexico. Many stations can commence digital operations in this spectrum between 25,600 and 26,480 kHz.

REC feels that the Commission's current use of minimum distance separation and the use of a 10 kW day/1kW night non-directional model for expanded band AM stations is "AM done right". The use of this model allows for easier implementation of future stations and the potential implementation of Low Power AM (LPAM) services as proposed several years ago by The Amherst Alliance and other LPAM service proponents.[8]

REC supports limited development of the AM expanded band using the existing Model I (10 kW day, 1 kW night, non-directional only) utilizing minimum distance separations between stations in order to assign frequencies.[9] We feel that expanded band AM can be used as a migration path for some Class C stations to migrate from the local channels (1230, 1240, et al) to the expanded band channels.

As we consider whether this should be handled like other windows involving mutually exclusive applications, we see some differences between this window and other broadcast windows in the past. Previous broadcast windows, both FM and AM involve the placement of stations on frequencies where there are other facilities on other frequencies scattered throughout the band.

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[8] - See RM-11287. REC supported the creation of a Low Power AM (LPAM) service for either commercial or non-commercial operation. REC supported two classes of LPAM stations: 30 watts and 100 watts. 30-watt stations would be required to protect full-power AM stations by 254km co-channel, 133 km on first adjacent channels and 60 km on second adjacent channels. 100-watt stations would protect full-power AM stations by 319 km on co-channel, 197 km on first-adjacent channel and 60 km on second adjacent channels. TIS stations would be protected at 24 km by 100 watt LPAM stations and 16 km by 30-watt LPAM stations on co-channel and first adjacent channels. 100-watt LPAM stations would be restricted to suburban and rural areas based on population density.

[9] - Minimum distance separation in the extended band are 800 km from co-channel, 200 km for first-adjacent channel and 53 km for second-adjacent channel. *See AM Improvement Order,* 6 FCC Rcd at 6356. Stations operating on 1590 and 1600 kHz are protected on the bases of these minimum distance separations. See *Order I,* 10 FCC Rcd 12149; 47 CFR §73.37(f). In addition, the groundwave service areas of two harmonically related stations (such as 810/1620, 820/1640, 830/1660, 840/1680, 850/1700) can't overlap. The AM primary service area is defined as the 2 mV/m contour in communities with at least 2,500 persons and the 0.5 mV/m contour elsewhere.

In this case, it is more likely that there will be large contiguous portions of spectrum available in a certain region of the country. Based on the minimum distance separations, the potential demand to migrate and adjacent channel protection requirements, it may be possible that an MX group may be formed that spans a large area and multiple channels in sort of a snowball effect. Imagine something like MX Group #27 in Los Angeles in the 2013 LPFM filing window but with a much larger area and potentially spanning 4 or more adjacent channels. Under the current rules to settle MX groups, a secondary allocation can't be made. Therefore, doing the traditional auction method may be tricky.

As far as using a concept that prioritizes stations suffering from "major interferers", that method has been tried in the past and as the Commission has determined, 25 licensees that were supposedly suffering from major interferers are still running their so-called substandard facilities in addition to the new expanded band station.

The only way that we can think of this working right is to conduct three filing windows and auctions. Each filing window will include three channels:

First window and auction	Second window and auction	Third window and auction
1620	1630	1640
1650	1660	1670
1680	1690	1700

In the first window, applications will only be accepted for operation on 1620, 1650 and 1680. With the proposed elimination of groundwave third-adjacent channel protections by Class B, C and D stations, mutual exclusivity would be limited to co-channel spacing. Once the first auction has been finished and the winners declared, the second window can open for 1630, 1660 and 1690 protecting not only the legacy expanded AM stations but also those on 1620, 1650 and 1680 that won the first auction. Then, after the second auction is completed, a third window and auction would be open for 1640, 1670 and 1700. REC still does not feel that it is appropriate for new expanded AM stations on 1610 due to federal TIS activity and in the northeast, nighttime service from Canada.

In an analysis of 1620, 1650 and 1680 kHz, REC has found that if the 25 expanded band AM stations that were identified as holding both a standard band and an extended band license are able to keep their expanded band facilities, there would be some potential new opportunities for AM stations. See the maps in this filing for to determine those areas. If the expanded band licenses are surrendered, there would be some more significantly opened opportunities.

REC understands that holding three auctions will be time consuming for both the Commission and the applicants but we feel this is the best way to prevent enormously-sized multi-channel MX groups from forming. Not only that but MX groups would be delineated due to protections to existing co-channel, first and second adjacent channel stations. We feel that these three auction windows be limited to existing Class C and D stations. If the Commission decides that other station classes and/or new entrants be involved, then Class C and D licensees should be afforded a significant bidding credit to participate in this auction.

REC supports the concept of a flash cut however it would be acceptable if a converting station be afforded a "night light" period similar to the one done in digital television where the standard band transmitter may still operate to broadcast a non-commercial looped recording to direct listeners to the new channel. The overlapping period should be as long as 30 days but the licensee is free to waive the full 30 days and sign-off sooner.

FINAL THOUGHTS

The issue of AM revitalization and the preservation of the Class A clear channel service is one of those few rare cases that REC actually agrees with IHM. The problem that we have with AM is that there are simply too many stations on the band and unlike FM and TV, you have some very basic physics that are relevant in this case. Unless you reduce the nighttime power of every AM station and despite certain antenna designs, AM signals are going to propagate. This is how AM worked in the 1920s and this is how AM works nearly 100 years later. No "advancement" that the FCC can make in this proceeding is going to change the laws of physics. Nothing is going to prevent radio signals in this part of the spectrum from propagating. Anyone with a General Class amateur radio service license can tell you that. To assure that smaller communities could

obtain AM stations, local channels were created. These channels were originally given a maximum of 250 watts unlimited. They would eventually be given 1 kW daytime on a secondary basis. Have you ever listened to 1230, 1240, 1340, 1490 or the other (Class C) local channels at night when there is no local station? This is what no night time skywave protection for Class A is going to sound like.

The bottom line of this is simple. We need to migrate Class D stations that are on American and foreign clear channels to FM or 11-meter digital. We should also give the opportunity for Class C stations as well as Class B stations with very limited nighttime service areas to be allowed to migrate. Instead of increasing nighttime noise on AM (didn't we learn our lesson from nighttime HD IBOC?), we need to spread out the stations by reallocating 12 MHz below the current FM broadcast band from a handful of TV stations (including those on Channel 6 that will have the additional burden of protecting NCE-FM stations) to 60 analog FM channels that can be allocated to thousands of Class D, Class C or some Class B AM stations to replicate most of their daytime AM service contours to provide a full-time and consistent service where Class A and higher powered Class B stations can provide a metropolitan groundwave and a regional skywave service. FM radios capable of tuning the entire band from 76 to 108 MHz are available right now. Likewise, DRM receivers for the 26 MHz band are also being manufactured. The "Wide-FM" (76-108 MHz) receivers are being actively marketed in Japan as a result of their recent expansion of the FM band to accommodate their commercial AM broadcast stations.

REC implores IHM, Cumulus and the other major owners as well as the Class C and D owners to urge your state broadcaster associations and the NAB to come on board with a permanent solution to the issues faced by Class C and D AM stations while still maintaining a regional clear channel AM service. This can be done through the reallocation of Channels 5 and 6 from TV to radio or digital operation on 11 meters. The Channel 5 and 6 spectrum is not being used in the border area of Mexico at all and while Canada does have allocations in this spectrum, many of them are reserved and can be easily reaccommodated elsewhere in the band. We really need to address this before we make the huge mistake of packing this spectrum with television channels that many antenna users will have difficulty receiving due to the design of modern TV antennas and the propagation characteristics of low band VHF and its impact on digital television signals.

At the same time, we need owners like IHM to put their rating books back on the shelf and look at the big picture where it comes to clear channel AM stations. At night, we need to look past the handful of counties in the metro market and look at a much bigger market with a potential for listeners. In order to make this happen, the Commission needs to clean up AM by offering incentives for lower powered AM stations to be able to migrate to an expanded FM band for 24 hour static free service as well as primary service at all times. Yes, this does mean a temporary consumer hardship as expanded FM band (Wide-FM) or DRM radios are beginning to be marketed in the country but as we saw with the transition to expanded band AM, it will take time for the radios to penetrate the market. Unlike with HD Radio rebroadcasting digital versions of FM stations and subchannels which are nothing more than just music on "shuffle mode", there is more of a public outcry for AM content to be more widely available and in better quality.

The Commission needs to take the thoughts of radio listeners more seriously than they have been. We, the citizens of this country own the spectrum within our borders. We the citizens of this country, through Congress, entrust the FCC to manage that spectrum and license entities to use the spectrum that will act in the public interest, need and necessity and not just in the best interest of their advertising market. Programmed correctly, clear-channel AM can be great again and local (Class C and D) radio can have a better fit in the spectrum, in a newly expanded FM band.

Respectfully submitted,

/S/
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Riverton, MD 21837
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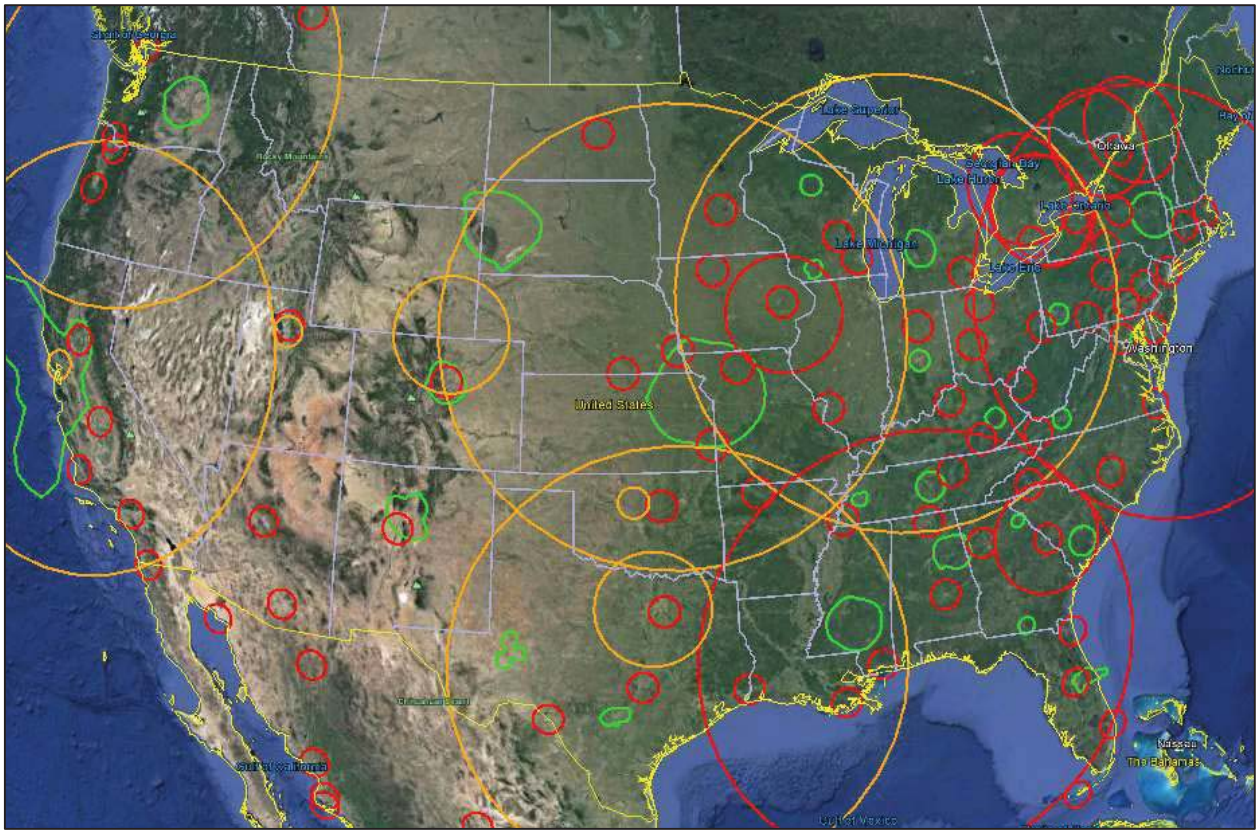
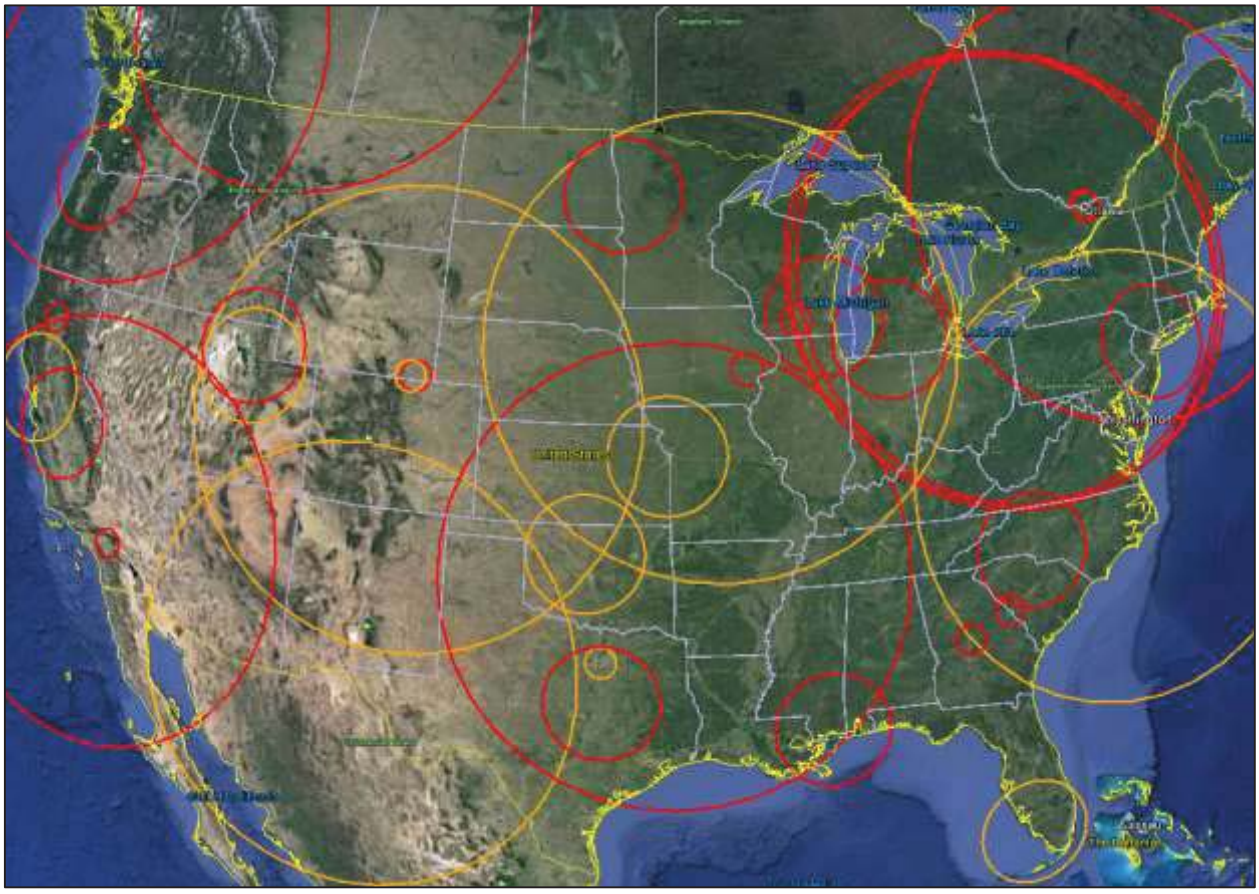
AVAILABILITY FOR A POTENTIAL AUCTION WINDOW FOR 1620 kHz

RED = The minimum distance separations for extended band AM stations (800 km for co-channel, 200 km for first adjacent channel and 53 km for second adjacent channel).
ORANGE = The minimum distance separations for extended band AM stations that have been identified by the FCC as not surrendering one of their two licenses. REC recommends that these licenses be cancelled if the licensee does not surrender one of the two licenses voluntarily.
GREEN = The 2 mV/m contour of AM stations on 810 kHz. (Second harmonic rule)



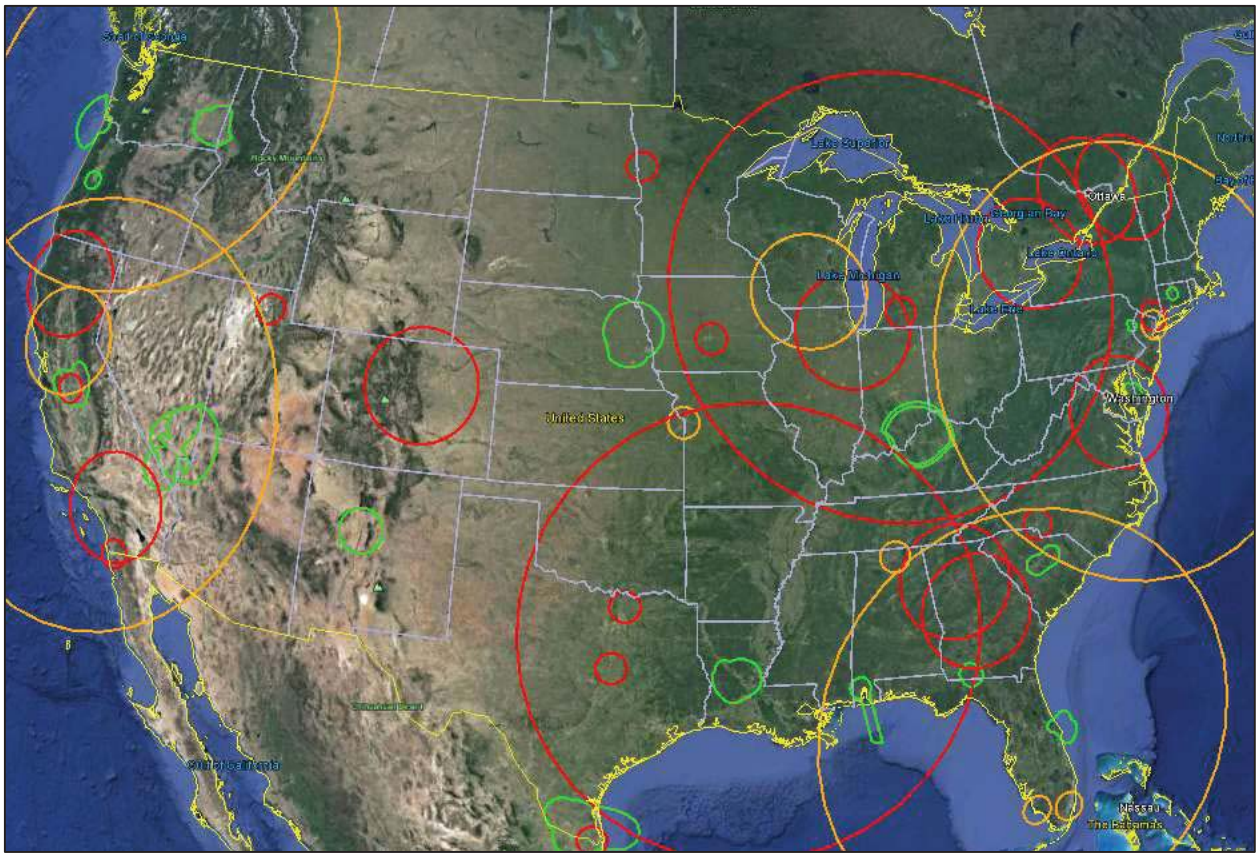
AVAILABILITY FOR A POTENTIAL AUCTION WINDOW FOR 1650 kHz

RED = The minimum distance separations for extended band AM stations (800 km for co-channel, 200 km for first adjacent channel and 53 km for second adjacent channel).
ORANGE = The minimum distance separations for extended band AM stations that have been identified by the FCC as not surrendering one of their two licenses. REC recommends that these licenses be cancelled if the licensee does not surrender one of the two licenses voluntarily.



AVAILABILITY FOR A POTENTIAL AUCTION WINDOW FOR 1680 kHz

RED = The minimum distance separations for extended band AM stations (800 km for co-channel, 200 km for first adjacent channel and 53 km for second adjacent channel).
ORANGE = The minimum distance separations for extended band AM stations that have been identified by the FCC as not surrendering one of their two licenses. REC recommends that these licenses be cancelled if the licensee does not surrender one of the two licenses voluntarily.
GREEN = The 2 mV/m contour of AM stations on 840 kHz. (Second harmonic rule)



EXAMPLES OF "WIDE-FM" RECEIVERS CAPABLE OF RECEIVING 76~108 MHz THAT ARE CURRENTLY BEING MARKETED IN JAPAN TO IMPLEMENT JAPAN'S "AM REVITALIZATION" EFFORTS

ワイドFMが聴けるラジオ、ラジカセ、CDラジオ

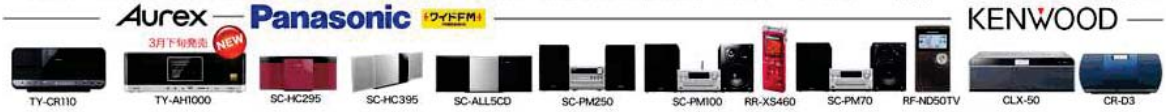
新たにワイドFM対応として発売されたラジオ、ラジカセ、CDラジオ

（発売予定も含む）（ニッポン放送 調べ 2016年 3月4日現在）

SONY

TOSHIBA

Aurex — Panasonic ワイドFM — KENWOOD



ONKYO — DENON

YAMAHA

JVC — Pioneer

marantz — BOSE — TEAC — AudioComm

ELPA — KOIZUMI

WINTECH

YAZAWA — dretec — Bearmax

GREEN HOUSE — Logitec — SANSUI — LEPLUS — ダイニチ電子

⚠ ワイドFM（FM補完放送）対応のラジオ、CDラジカセ、カーオーディオをお買い求めの際は、必ず販売店にお問い合わせ確認をお願いします

ワイドFM が聴けるカーナビ、カーオーディオ

ニッポン放送 調べ 2016年3月4日現在 （発売予定を含む）

HONDA 純正カーナビゲーション Gathers ディーラーオプション


VXM-165VFNi


VXM-165VFEi


VXM-165VFi


VXM-164VFi


VXM-164CSi

DIATONE SOUND.NAVI


NR-MZ100


NR-MZ100PREMI

Pioneer carrozzeria


FH-9200DVD


FH-6200DVD


FH-4200


MVH-7200


DEH-5200


MVH-5200


DEH-7100


DEH-5100


DEH-5100


DEH-6200


DEH-4200


MVH-3200


DEH-4100


DEH-3100


FH-3100


FH-4100


FH-9100DVD


FH-7100DVD


FH-6100DVD


FH-6100TV


AVIC-RL09


AVIC-RZ09


AVIC-RW09

KENWOOD


MDV-L503W


MDV-L503


MDV-D503W


MDV-D503


DDX6016W


DDX6016


DDX3016


MDV-L403W


MDV-L403


U410BT


U310BT


U350BT


U400BMS


DPX-U730BT


DPX-U530


DPX-U720BT


DPX-U520


U300


U300R


U400


RDT-181


MDV-X802L


MDV-Z702


MDV-X702


MDV-Z702W


MDV-X702W


MDV-L502W


MDV-L402


MDV-L502


RDT-171


U300BT


U300MS


U400BT

FUJITSU TEN ECLIPSE


AVN-SZX04i


AVN-ZX04i


AVN-SZ04i


AVN-Z04i


AVN-Z04i W


AVN-SZ04i W


AVN-SZX05i


AVN-SZX05iW


AVN-SZ05i


AVN-ZX05i


AVN-Z05iW


AVN-Z05i

Clarion


CX315


MAX775W


MAX675W


NX715


NX615W


NX615

⚠ ワイドFM FM補完放送対応のカーナビ・カーオーディオをお買い求めの際は、必ずディーラー、販売店にお問い合わせ、確認をお願いします

JAPAN'S EXPANDED FM BAND IMPLEMENTATION
GIVING AM BROADCASTERS NEW FM FACILITIES IN 90~95 MHz
(Japan's FM broadcast band has been traditionally 76~90 MHz)

都道府県	局名		周波数	放送開始の状況(予定)
秋田県	ABSラジオ	HP	90.1	放送中!
新潟県	BSNラジオ	HP	92.7	放送中!
茨城県	IBS茨城放送	HP	94.6	放送中!
東京都 神奈川県 埼玉県 千葉県 及びその周辺	TBSラジオ	HP	90.5	放送中!
	文化放送	HP	91.6	放送中!
	ニッポン放送	HP	93.0	放送中!
富山県	KNBラジオ	HP	90.2	放送中!
愛知県 及びその周辺	CBCラジオ	HP	93.7	放送中!
	東海ラジオ	HP	92.9	放送中!
大阪府 及びその周辺	MBSラジオ	HP	90.6	NEW 3月19日開局
	ABCラジオ	HP	93.3	
	ラジオ大阪	HP	91.9	

和歌山県	WBSラジオ	HP	94.2	2016年 春
広島県	RCCラジオ	HP	94.6	放送中!
山口県	KRYラジオ	HP	92.3	放送中!
愛媛県	南海放送ラジオ	HP	91.7	放送中!
福岡県	RKBラジオ	HP	91.0	NEW 3月28日開局
	KBCラジオ	HP	90.2	
長崎県	NBCラジオ	HP	92.6	放送中!
熊本県	RKKラジオ	HP	91.4	2016年 春
宮崎県	MRTラジオ	HP	90.4	2016年 4月頃
鹿児島県	MBCラジオ	HP	92.8	放送中!